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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ICHIRO KAMIMURA and TETSUYA MASUDA

Appeal 2007-0335
Application 10/674,814
Technology Center 3700

Decided: January 31, 2008

Before MURRIEL E. CRAWFORD, JENNIFER D. BAHR, and ANTON W. FETTING, *Administrative Patent Judges*.

CRAWFORD, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134 (2002) from a final rejection of claims 1-3. We have jurisdiction under 35 U.S.C. § 6(b) (2002).

Appellants invented a dryer which includes a refrigerant circuit which is formed by sequentially installing and connecting a compressor, a gas cooler, and a pressure reducing device. Appellant discloses that the refrigerant circuit has an annular shape (Specification 2).

Claim 1 under appeal reads as follows:

> 1. A drier which is equipped with a drying chamber for containing an article to be dried, comprising:
>
> a refrigerant circuit constituted by sequentially installing and connecting a compressor, a gas cooler, a pressure reducing device and an evaporator in an annular shape; and
>
> blowing means for circulating air in the drying chamber to exchange heat with the gas cooler and the evaporator, wherein the blowing means is positioned in an air circulation path between the gas cooler and evaporator.

The Examiner rejected claim 1 under 35 U.S.C. § 102(b) as being anticipated by Brown.

The Examiner rejected claims 2 and 3 under 35 U.S.C. § 103(a) as being unpatentable over Brown in view of Ebara.[1]

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Brown	US 5,361,511	Nov. 8, 1994
Ebara	EP 1 081 383 A2	Mar. 7, 2001

Appellants contend that Brown does not disclose (1) a refrigerant circuit constituted by sequentially installing and connecting a compressor, a gas cooler, a pressure reducing device and an evaporator in an annular shape and (2) a blowing means positioned in an air circulation path between the gas cooler and the evaporator.

ISSUES

The first issue is whether Appellants have shown that the Examiner erred in finding that Brown discloses a dryer having a refrigerant circuit

[1] The rejection based on Goldberg has been withdrawn (Answer 2).

constituted by sequentially installing and connecting a compressor, a gas cooler, a pressure reducing device, and an evaporator in an annular shape.

The second issue is whether Appellant has shown that the Examiner erred in finding that Brown discloses a blowing means positioned in an air circulation path between the gas cooler and the evaporator.

FINDINGS OF FACT

Appellants disclose a drier in which a refrigerant circuit is constituted by installing and sequentially connecting a compressor 10, a gas cooler 154, a pressure reducing device 112 and an evaporator 157 (Figure 1). Air is circulated along an air circulation path from the dryer chamber 108 to the evaporator 157 to the gas cooler 154 and back to the dryer chamber 108. A blower 114 is positioned within this air circulation path between the evaporator 157 and the gas cooler 154 (Specification 16, l 23- 17, l 1).

Appellants' figures do not depict a refrigeration circuit that is ring shaped or what one would consider annular. The Specification discloses that "the evaporator 157, the expansion valve 156 and the gas cooler 154 are installed and connected in an annular shape to constitute a refrigerant circuit shown in FIG. 4" (Specification 6).

Brown discloses a drier having a refrigerant circuit constituted by sequentially installing and connecting a compressor 60, an element 66, a pressure reducing device 64 and an element 62 (Figure 2). The Examiner finds that element 66 is a gas cooler because air which contacts the evaporator coils is converted to a liquid (condensation) by cooling the air (col. 3, ll. 39-42) and that element 62 is an evaporator because the air contacting element 62 is warmed thereby. Refrigerant is circulated sequentially through the above described elements in a closed circuit in a

conventional manner (col. 3, ll. 17- 23). Brown also discloses an air circulation path. Air is brought in from the dryer chamber via conduit 36 and travels through port 50' into chamber 50, where it is cooled by gas cooler 66, and travels out of chamber 50 through port 50" into space 31'. The air travels through space 31' to space 31 through port 42 to space 53 and then to space 31" and through port 52" to chamber 52, where it is heated by evaporator 62, and out of chamber 62 through port 52' back to the dryer chamber through conduit 38. A fan 46 is in the air circulation path between the gas cooler 66 and the evaporator 62.

ANALYSIS

New rejection under 35 U.S.C. § 112, second paragraph

Pursuant to 37 C.F.R. § 41.50(b) claims 1-3 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Claim 1, which is the sole independent claim, requires "a refrigerant circuit constituted by sequentially installing and connecting a compressor, a gas cooler, a pressure reducing device and an evaporator in an annular shape." It is unclear what the term "annular" means in claim 1. The refrigeration circuit depicted in Figure 4 does not appear to have an annular or ring shape and the Specification does not explain what is meant by the term "annular." As such, claim 1 and claims 2 and 3 dependent thereon, do not set out and circumscribe a particular area with a reasonable degree of precision and particularity and therefore do not meet the requirements of 35 U.S.C. § 112, second paragraph.

Anticipation

In some instances, it may be impossible to determine whether or not claimed subject matter is anticipated by the applied references because the claims are so indefinite that considerable speculation and assumptions would be required regarding the meaning of terms employed in the claims with respect to the scope of the claims. *See In re Steele*, 305 F.2d 859, 862 (CCPA 1962). In other instances, however, it is possible to make a reasonable, conditional interpretation of claims adequate for the purpose of resolving patentability issues to avoid piecemeal appellate review. In the interest of administrative and judicial economy, this course is appropriate wherever reasonably possible. *See Ex parte Saceman*, 27 USPQ2d 1472, 1474 (Bd. Pat. App. & Int. 1993); *Ex parte Ionescu*, 222 USPQ 537, 540 (Bd. App. 1984).

In the present case, we consider such a reasonable and conditional interpretation to be possible. This interpretation is that the "annular shape" language of claim 1 means that the refrigeration circuit is a closed refrigeration circuit or loop. This interpretation is consistent with the disclosure that the annular shape constitutes the refrigerant circuit shown in Figure 4 (Specification 6).

We are not persuaded by Appellants' arguments that Brown does not disclose an annular shaped refrigeration circuit. Brown does indeed disclose a refrigeration circuit that is a closed circuit or loop. We also note that the Brown refrigeration circuit has the exact same shape as the circuit depicted in Appellants' Figure 4 and therefore is annular to the same extent that the Appellants' refrigeration circuit is annular. In addition while the connection between the compressor 60 and what the Examiner considers the gas cooler

66 is not shown in Figure 2, Brown nonetheless discloses that the two are connected by disclosing that the various components are connected *in a convention manner* (col. 3, ll. 17-21). Indeed, such would have to be the case for the refrigerant circuit in Brown to be operable.

We are likewise not persuaded by Appellants' argument that a blowing means is not positioned in an air circulation path between the gas cooler and the evaporator. Firstly, Brown discloses a fan 46 which is the same type of blowing means disclosed by Appellants. We note that Appellants admit that a fan is equivalent to the claimed blowing means (Reply Br. 3). Secondly, the fan 46 is between the gas cooler 66 and the evaporator 62 in the air circulation path in that air passes from the gas cooler 66 into chamber 50 where it is blown by fan 46 to pathway 31, 42, 53 before contacting evaporator 62.

In view of the foregoing, we will sustain the Examiner's rejection of claim 1 under 35 U.S.C. § 102(b).

We will also sustain the Examiner's rejection of claims 2 and 3 under 35 U.S.C. § 103 because the Appellant has relied on the arguments made in response to the rejection under 35 U.S.C. § 102(b).

This decision contains a new ground of rejection pursuant to 37 C.F.R. § 41.50(b) (effective September 13, 2004, 69 Fed. Reg. 49960 (August 12, 2004), 1286 Off. Gaz. Pat. Office 21 (September 7, 2004)). 37 C.F.R. § 41.50(b) provides "[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review."

37 C.F.R. § 41.50(b) also provides that the appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of

the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:

> (1) Reopen prosecution. Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the proceeding will be remanded to the examiner....
>
> (2) Request rehearing. Request that the proceeding be reheard under § 41.52 by the Board upon the same record....

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED; 37 C.F.R. § 41.50(b)

hh

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